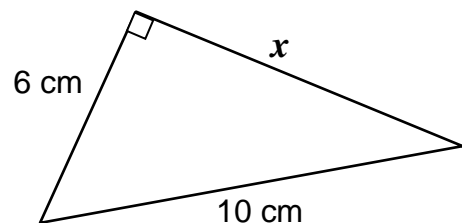
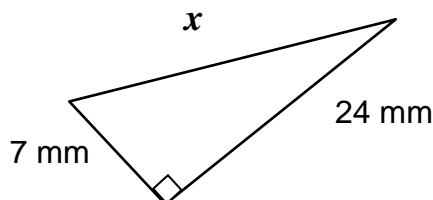


Homework 5 – Algebra, revision and Pythagoras' Theorem

- Write the numbers in each of these sentences in scientific notation.
 - The mass of the moon is about 79 250 000 000 000 000 000 kg
 - The relative density of hydrogen is 0.000 089 9
- Write the numbers in each of these sentences in full.
 - The number of seconds in a decade is about 3.2×10^8
 - The size of a molecule of water is roughly 1×10^{-3}
- A car cost £11 000 when bought new. The value of the car is expected to depreciate by 15% per annum for each of the next 4 years. Find the value of the car after 4 years.
- The price of an article, including 32% profit, is £316.80. Calculate the price before the profit is added.
- Solve these equations for x :
 - $3x = -15$
 - $7x = 49$
 - $6x + 14 = 8$
 - $12 - 4x = 36$
 - $7x + 7 = 5x - 11$
 - $3x + 13 = 9 - 5x$
 - $4x - 8 = 6x - 14$
- Multiply out the brackets
 - $9(a + 5)$
 - $7(y - 8)$
 - $4(w + 9)$
- Multiply out the brackets
 - $x(x^3 + 2)$
 - $a(ab + 3c)$
 - $3m(8 - m)$
- Multiply out the brackets and simplify
 - $3(x + 7) + 2x$
 - $16y - 5(2y + 3)$
 - $7(s - 2) - 13$
- Factorise
 - $y^2 + 5y$
 - $6ax + 9a$
- Find the length of x in each of the triangles below.



- An equilateral triangle can be split into two identical (congruent) right angled triangles, as shown here
Calculate the height, h cm, of an equilateral triangle whose sides are each 18cm long.

